

# LINEAR ALGEBRA I

## QUIZ 1

NAME: .....

(1) Explain why the set of all differentiable functions  $y = f(x)$  satisfying  $y' = y - 1$  do not form a vector space.

(2) Show that  $\begin{pmatrix} 1 \\ 1 \end{pmatrix}$  and  $\begin{pmatrix} 2 \\ 1 \end{pmatrix}$  are linearly independent.

(3) Write  $\begin{pmatrix} 3 \\ -1 \end{pmatrix}$  as a linear combination of  $\begin{pmatrix} 1 \\ 1 \end{pmatrix}$  and  $\begin{pmatrix} 2 \\ 1 \end{pmatrix}$ .